

Application No. 10/789,490
Amendment Filed with RCE

Customer No. 01933

Listing of Claims:

Claim 1 (Canceled).

2. (Previously Presented) The battery pack according to
Claim 8, wherein:

the discharge control switch includes a discharge control
field-effect transistor having a gate serving as a control
5 terminal, and

the charge control switch includes a charge control
field-effect transistor having a gate serving as a control
terminal.

Claim 3 (Canceled).

4. (Previously Presented) The battery pack according to
Claim 2, wherein:

a gate voltage of the charge control field-effect transistor
is controlled to adjust a drain current thereof so that the one
5 charge control field-effect transistor performs both charge
control and overcharge control.

5. (Previously Presented) The battery pack according to
Claim 8, further comprising a temperature detection unit.

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6. (Original) The battery pack according to Claim 5,
wherein:

the temperature detection unit detects a temperature in
discharge control through the discharge control switch and
5 detects a temperature in the charge control through the charge
control switch.

7. (Original) The battery pack according to Claim 6,
wherein:

the temperature detection unit includes a thermistor.

8. (Currently Amended) A battery pack with a charge control
function, said battery pack comprising:

an overdischarge control circuit for detecting an
overdischarge mode of a secondary battery and supplying an
overdischarge detection signal to a discharge control switch when
5 the overdischarge mode is detected;

an overcharge control circuit for detecting an overcharge
mode of the secondary battery and supplying an overcharge
detection signal to a charge control switch when the overcharge
10 mode is detected; and

a charge control circuit for performing charge control of
the secondary battery by controlling the charge control switch;

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15 wherein the charge control circuit includes a constant-current control circuit, a constant-voltage control circuit, and a primary overvoltage detecting circuit;

wherein the constant-current control circuit controls the charge control switch so as to keep a potential difference across a current-detecting resistor at a predetermined value in order to charge the battery pack at a constant current;

20 wherein the constant-voltage control circuit detects a battery voltage of the secondary battery and controls the charge control switch so that the battery voltage does not exceed a predetermined voltage in order to charge the battery pack; and

25 wherein the primary overvoltage detection circuit detects a primary voltage, and the primary over voltage detection circuit turns off the charge control switch and stops charging when the primary voltage is an overvoltage.